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GENUS **Recurvirostra** LINN.*Recurvirostra* LINNÆUS, Syst. Nat. I, 10th ed. p. 151, 1758.**Recurvirostra americana** GMEL.

Recurvirostra americana. GMEL. Syst. Nat. I, p. 693 (1788).—GOSSE, Bds. Jam. p. 387 (1847).—BREWER, Pr. Bost. Soc. Nat. Hist. VII, p. 308 (1860) (Cuba).—GUNDL. J. f. O. 1862, p. 88 (Cuba).—ALBRECHT, J. f. O. 1862, p. 206 (Jamaica).—MARCH, Pr. Acad. Nat. Sci. Phila. 1864, p. 67 (Jamaica).—GUNDL. Repert. Fisico-Nat. Cuba, I, p. 357 (1866); *ib.* J. f. O. 1875, p. 330 (Cuba).—A. & E. NEWTON, Handb. Jamaica, p. 115 (1881).—CORY, List Bds. W. I. p. 26 (1885).

Recorded from Cuba and Jamaica.

(To be continued.)

A NEW RACE OF THE SHARP-TAILED SPARROW
(*AMMODRAMUS CAUDACUTUS*).

BY JONATHAN DWIGHT, JR.

SEVERAL years ago I obtained in New Brunswick, near the head of the Bay of Fundy, three Sparrows that I labelled *Ammodramus caudacutus*, as a matter of course. They lay unnoticed in my collection until one day last summer, when I was struck by their faded and faintly streaked appearance as compared with New York specimens at the same season. My suspicions were aroused, and during the summer and fall, which I was able to spend in the same locality, I obtained a series of these birds showing so clearly all changes of plumage that I decided to investigate as much other material as I could gather with the help of kind friends. My thanks are due to Messrs. J. A. Allen, Montague Chamberlain, H. W. Henshaw, Robert Ridgway, Geo. B. Sennett, and Dr. A. K. Fisher, for the large series of Sharp-tailed Sparrows now before me,—114 specimens in all. It confirms me in the belief that my birds represent a good geographical race, which forms the connecting link between true *caudacutus* and the inland race *nelsoni*, and it shows, moreover,

that in autumn all three forms are found scattered along the Atlantic coast or near it, *nelsoni* occurring infrequently as far north as Cambridge, Mass., true *caudacutus* as far as Portsmouth, N. H., and the new form still farther north. I have no material from farther south than South Carolina, although Sharp-tails are known to occur in the Gulf States, and very likely all three races may be found there at the proper season. I propose naming the northern race

**Ammodramus caudacutus subvrgatus, subsp. nov. ACADIAN
SHARP-TAILED SPARROW.**

SUBSP. CHAR.—Similar in size and coloring to *A. caudacutus* but paler and much less conspicuously streaked beneath with pale greenish-gray instead of black or deep brown. Bill averages smaller. Compared with *nelsoni* it is much paler and grayer, generally larger and with a longer bill.

Adult ♂ in breeding plumage (No. 1261, Hillsborough, Albert Co., New Brunswick, July 19, 1886; J. Dwight Jr.) :—Above ashy-gray tinged with olive, the dorsal feathers, scapulars, and three innermost secondaries or tertials largely brownish-black edged with whitish. Greater and middle wing-coverts ashy, with a blackish subterminal spot along the shaft of each feather. Primaries and secondaries brown, edged with greenish-gray fading to white on first primary. Broad superciliary and maxillary stripes pale buff, whitish above the eye, and orange tinged where they meet at a dark brown spot (the extension of a post-ocular streak) just posterior to the ashy auriculars. Bordering the superciliary stripes the head is pale yellowish-brown mixed with black streaks and divided by an ashy-gray median stripe which extends down to and over the sides of the neck in a sort of collar, tinged on the hind neck with pale orange-brown. Faint spot above and below the eye and rictal streak dusky; sides of throat with ashy bridle. Jugulum, sides, and flanks faintly suffused with buff and lightly streaked longitudinally with pale greenish-gray, darker on flanks, the streaking losing itself in the dull white of the breast and sides of the abdomen. Rest of underparts grayish-white. Edge of wing pale lemon. Tail ashy, dusky along shafts of feathers and faintly barred. Upper tail-coverts streaked with dusky. Bill bluish black, under mandible bluish-slate, pinkish at base; tomia whitish. Feet purplish-flesh. Iris dark hazel. Wing,* 59.4; tail, 48.8; tarsus, 20.6; middle toe and claw, 20.8; bill from nostril, 8.6.

Adult ♀ in breeding plumage (No. 1239, same locality and collector, July 15, 1886) :—Resembling closely the male but with richer yellow-buff, orange tinged across the jugulum and about the head, and with secondaries, tertials, and wing-coverts conspicuously edged with pale russet in-

*All measurements in millimeters.

stead of grayish. Wing, 54.1; tail, 44.7; tarsus, 19.8; middle toe and claw, 21.3; bill from nostril, 8.9.

Adult ♂ and ♀ in autumn (Nos. 1500, ♂, and 1502, ♀, same locality and collector, Sept. 30, 1886) :—Coloring everywhere richer, grayer, and greener than in breeding dress, but streaking fainter and grayer. Above rich greenish-gray, the dorsal feathers and scapulars greenish-brown (instead of nearly black), flecked with dusky, and edged with delicate pearl-gray (instead of whitish). Tertiaries, secondaries, and wing-coverts russet, edged like the female in breeding dress. Primaries nearly black, edged exteriorly with bright olive-green nearly to tips, except first primary, which is edged with white. The brown of the head and the gray of the median line and neck are richer, and the cervical collar greener. Superciliary stripe intensified into a yellow spot on the eye-brow. A deep greenish wash above the eye extends backward and loses itself in the superciliary stripe. The buff of the breast and sides is brighter, and the streaking is pale lead gray in broader stripes. Edge of wing bright yellow. Lesser wing-coverts and alulae edged with yellowish-green, the longest feather of the alula dusky, edged with white.

Young of the year :—Identical in plumage with autumn adults, but with slightly smaller bill.

Young, first plumage (No. 1240 ♂, same locality and collector, July 15, 1886) :—General color chestnut-buff, darker above and variegated with black. Traces of two or three faint dusky streaks on sides. Dorsal feathers, tertials, wing-coverts, and stripes on the head, black with chestnut-buff edging. Primaries and secondaries black, faintly edged with ashy. Traces of dusky auriculars and post-ocular streak. Tail similar to adult but edged with buff. This plumage is worn until the autumn dress of the adult is assumed.*

HABITAT. Marshes of southern New Brunswick, Prince Edward Island, and probably Nova Scotia, and southward in migration along the Atlantic coast.

Measurements. Twenty-five ♂ and thirteen ♀, all adults, show the following averages and extremes: Length,[†] ♂ 142.5 (135.9-147.3); ♀ 138.4 (135.9-141.); extent[†] ♂ 201.7 (193.-209.6); ♀ 192.3 (190.5-195.6); wing, ♂ 58.2 (55.6-59.7); ♀ 54.6 (52.8-56.1); tail, ♂ 50.5 (47.2-53.3); ♀ 46.7 (42.9-50.3); tarsus, 20.8 (19.8-21.6); bill from feathers, 11.7 (10.4-12.5), from nostril, 8.8 (8.1-9.1), depth at nostril, 5.3, width, 3.8.[‡]

* Compare first plumage of *A. caudacutus* (Brewster, Bull. N. O. C., III, 1878, 119). Seven specimens that I have examined all show more or less distinct streaking.

† Fresh specimens—11 males, 4 females.

‡ The following measurements will prove useful for comparison: *A. caudacutus*, 34 adults: Length, male, 149.1 (144.8-157.5); female, 135.9 (129.5-142.2); extent, male, 205.7 (203.2-213.4); female, 191 (177.8-200.7); wing, male, 58.7 (57.2-62.); female, 55.6 (53.6-57.4); tail, male, 48.5 (43.9-52.1); female, 47 (44.5-50.3); tarsus, 20.6 (19.3-21.8); bill from feathers, 12.2 (11.4-13.2), from nostril, 9.4 (8.9-10.2), depth at nostril, 5.3; width, 4.1.

A. c. nelsoni, 24 adults: Length, male, 140.2 (134.6-144.8); female, 135.9 (134.6-137.2)

This new form is not likely to be confounded with true *caudacutus*, for, so far as my material shows, the palest streaked *caudacutus* in any plumage may be recognized at a glance by being more distinctly streaked than any specimen of *subvirgatus*. More material from suitable localities will no doubt show intermediates, but as yet I have seen no connecting links at this end of the chain. At the other end, however, *subvirgatus* passes gradually into *nelsoni*, as a series of fall specimens clearly shows. I have been unable to obtain any spring *nelsoni* for comparison, but judging by the changes of plumage in the other two forms, *nelsoni* ought to be a much brighter and more richly colored bird than *subvirgatus* in like plumage. This is the case with fall specimens, and the points of difference are usually well defined. Compared with the new form at this season, *nelsoni* is characterized by the rich brown of the back with white edging of the feathers, instead of greenish gray with pearl-gray edging; by the deeper brown of the head; by the richer russet of the wing-coverts and inner secondaries, and broader rusty edging of the tertials as compared with whitish or buff; by the brighter orange-buff of the jugulum in sharp contrast to a whiter breast and abdomen than *subvirgatus* shows; by distinct (sometimes indistinct, however,) narrow streaks of black or dusky on jugulum and sides in place of broad indistinct gray stripes; by smaller size; by a bill not over 8.4 mm., and generally by a shorter wing.

It is difficult to indicate by description differences that are obvious with specimens in hand, but a preponderance of the characters just given ought to determine without actual comparison all save a few perplexing intermediates. Measurements will often aid in determining these, but with a species like the Sharp-tailed Sparrow that soon wears its plumage ragged and disreputable among the coarse grasses it frequents, measurements, particularly of the tail, are not altogether reliable. The length of bill in *nelsoni* seems to be a pretty good character, as *subvirgatus* (except in young of the year) seldom has as short a bill. To be sure, the differences are slight but quite noticeable to the eye, nevertheless. Although the largest bill of *nelsoni* never equals

extent, male, 198.9 (193.-203.2); female, 193 (190.5-195.6): wing, male, 56.1 (53.9-57.7); female, 54.4 (52.1-56.4): tail, male, 48.3 (45.5-52.1); female, 47.5 (44.5-50.3): tarsus, 20.1 (19.1-20.8): bill from feathers, 10.7 (10.2-11.2), from nostril, 8.1 (7.6-8.4) depth at nostril, 5.1, width, 3.8.

the smallest bill of *caudacutus*, the bills of the three forms intergrade, and it is the short-billed specimens of the new form that are likely to give the most trouble. I notice that nearly all *nelsoni* have lighter colored bills (especially the lower mandible, which is buff) than the majority of specimens of the new race, which generally has both mandibles slaty, but I fear no dependence can be placed upon this fact.

A series of Sharp-tails obtained in the autumn at Sing Sing, N. Y., by Dr. Fisher, is of special interest. From typical *nelsoni*, as rich in color as those obtained in Illinois, these birds show a gradual and complete gradation into *subvirgatus*, the brown of the head and back, and deep buff of the jugulum becoming paler, the white edging of the dorsal feathers passing into gray, and the streaking of the jugulum fading into gray, until the imaginary line dividing all subspecies has been passed and the characters of *subvirgatus* are seen to predominate.

It is to be regretted that the specimens from which I have selected my spring types are in worn and faded plumage, but comparing them with four specimens taken respectively at Point Judith, R. I., April 29, N. Madison, Conn., June 9, Cambridge, Mass., May 31, and Hampton, N. B., June 21, and with two labelled New Jersey, I find them almost identical in coloring and amount of wear. I notice that my summer males are generally paler above and less buffy beneath than the females, although a few of the latter are paler than the brightest males. Can it be that the males expose themselves more to the sun for the sake of singing to their mates, who assume the household cares of a shady nest amid the long grass?

The N. Madison and the Cambridge specimens just referred to have the shortest bills (only 8.1 mm.) of any *subvirgatus* in the series at hand, and the latter has been recorded as *nelsoni*. (Henshaw, Auk, III, 1886, 486.) It is labeled "♂ juv.," which may, perhaps, account for the short bill, and the buff beneath is brighter than the average of the new race, but the pale coloring of the upper parts is identical with my New Brunswick birds. The N. Madison specimen, an adult female, is undoubtedly of the new race and a trifle paler than the Cambridge bird. These two, taken in connection with other short-billed specimens obtained at Cambridge and at Sing Sing in the fall, suggest the inquiry whether some inland marshes may not

furnish a regular supply of connecting links between *nelsoni* and the new race, which is certainly more closely related to *nelsoni* than to true *caudacutus*. It may not be out of place to say here that the latter in fall plumage is more heavily and broadly streaked than in the spring, the orange-buff about the head and on the jugulum and sides, much intensified, but otherwise very much like the spring bird. Its long bill alone (8.9-10.2 mm.) will distinguish it from *nelsoni*, and the streaking from *subvirgatus*.

Strange to say, *nelsoni* was originally described by Mr. Allen (Proc. Bost. Soc. Nat. Hist., XVII, Mar. 1875), as having "a longer and slenderer bill" than *caudacutus*, an error that is repeated in the latest edition of Dr. Coues's 'Key'. The bird described was in fall plumage and the description of this clearly indicates the character of *nelsoni* at that season.

I discuss the subject of Sharp-tails at length because it has been one involved in some obscurity, and because several records have been made that will no doubt now require to be revised. It was not until 1877 that this species was recorded as far east as Maine, Mr. Brown having found it at Scarboro' in October, 1876 (Bull. N. O. C., II, 1877, 27 and 98), while Mr. Brewster recorded it from Tignish, P. E. I., August 2 and 3, 1876 (*Ibid.* II, 1877, 28). I have seen some of the Tignish specimens, which are of course faded *subvirgatus*. It would be interesting to know what the Scarboro' specimens were. One taken there October 13, 1879, and now before me, is *subvirgatus*. Some remarks by Dr. Brewer (*Ibid.*, III, 1878, 48 and 147) are interesting, for *A. caudacutus* is spoken of as abundant on St. Andrew's Bay. As this is partly in New Brunswick, the birds found there may prove to be *subvirgatus*. In 1880 Mr. Brown records *caudacutus* as breeding at Scarboro' (*Ibid.*, V, 1880, 52). Which race was it? I will also call attention to an article by Dr. Brewer in the 'Oölogist'* for 1879, where reference is made to the northern range of the Sharp-tails (Bull. N. O. C.,

*The 'Oölogist' for April, 1879 (Bull. N. O. C., VI, 1881, 47, Minor Ornithological Paper No. 59), is incorrect in stating that *A. caudacutus* was found breeding near Boston. It was a complicated case of misunderstanding and wrong identification which I will not discuss here, but as a matter of fact the birds breeding were nothing more nor less than *A. s. savanna*. The salt meadow referred to was on the 'Back Bay', and was fairly haunted with egg collectors. I visited it several times, and the birds found breeding there were Savannah Sparrows and *not* Sharp-tails.

VI, 1881, 47). The first record for New Brunswick is made by Mr. Chamberlain who, with Messrs. Purdie and Daniel, obtained five individuals at Hampton, June 21, 1881 (*Ibid.*, VII, 1882, 104 and 122). One of these is now before me,—an undoubted *subvirgatus*. The last record I shall refer to is Mr. Henshaw's (Auk, III, 1886, 486) of three specimens of *nelsoni* taken at Cambridge, Mass. That of May 31, I have assigned on a previous page to the ranks of *subvirgatus*; the other two, which I have also examined, were taken October 7, and are undoubted *nelsoni*. Mr. Henshaw suggests that "those having Sharp-tailed Finches in their collections will do well to examine their series thoroughly." This is excellent advice to follow, and I earnestly hope that the new subspecies I propose will solve difficulties that have heretofore presented themselves.

The apparent scarcity of spring examples of this new variety suggests the idea (probably erroneous) that it follows an inland route of migration at this season, especially since its breeding haunts are practically fresh water and inland meadows. One accustomed to the salt marshes where true *caudacutus* makes its home would never dream of finding its northern representative inhabiting fields where the grass is knee deep, and where the Bobolink and the Savannah Sparrow find it dry enough to make their nests. And yet this is the character of the marshes along the Petitcodiac River where I have found the birds in considerable numbers. The Petitcodiac is one of the rivers emptying into the Bay of Fundy when the tide is running out. The Bay of Fundy appears to empty into these rivers when the tide is running in, and long stretches of red mud are rapidly covered with the incoming water which, rising forty feet and more, has acquired world-wide renown, especially in the geographies. The marshes were no doubt overflowed at one time by the tide, but are now protected by low dikes, and drained at low tide by numerous narrow ditches, so concealed by overhanging grass that the unwary collector is liable to disappear when he least expects it. The river, more than a mile in width at Hillsborough, is bordered by the marshes, which often extend over half a mile back from the dikes. In the midst of such surroundings I found the New Brunswick Sharp-tails last summer. They were abundant in certain spots, but not easy to find on account of their retiring dispositions. Even their song is inaudible at the dis-

tance of a few yards, and at its best is suggestive of the bird's being choked in the attempt. It resembles, as nearly as I can represent it, *l'ic-sē-ē-ē-ē-oop*, and the gasping *sē-ē-ē-ē* is usually all that is heard unless one is very close to the soloist. It is usually delivered from the top of a weed, where, as the bird sits crouching, he presents an absurd appearance of ill-concealed fright. Sometimes he springs up into the air, particularly towards evening, and setting his wings floats down into the grass fairly gushing with song—such as it is. This performance may be compared with that of *A. maritimus*, for the songs of the two birds are modelled after the same pattern. But I must not take up any more space in describing habits that, so far as I have observed, are little different from those of true *caudacutus*. I was unable to discover any nests. I think, however, that two broods may be reared, as, on my arrival July 15, young were already on the wing, and it was almost impossible to find any females. I was not on the ground during August, but in September the birds were rather scarce. On September 30 they appeared in numbers, probably from some more northern locality, and on October 4 I saw the last of them.

I imagine they are found in their present environment because no salt marshes happen to be convenient. I frequently found them along a swampy brook fully a mile from salt water, fraternizing with Swamp Sparrows and Maryland Yellow-throats among the alder bushes. The locality on the Kenebecasis River, where Mr. Chamberlain obtained his specimens, is of similar character, and he informs me that the bird has been taken at Sackville, where the marshes are similar to, but much more extensive than those of the Petitcodiac. There is every reason to suppose that the bird is found in neighboring localities, but at present I cannot prove it. If I have been successful in introducing to notice a bird that has been fairly in our midst and yet not recognized as a stranger, I shall feel that my efforts have not been in vain, and I hope that this stranger, now that he presents his proper credentials, may not prove an unwelcome guest.